

file copy
do not remove
10/25/76

SIGNIFICANT OTHERS, THE SELF-REFLEXIVE ACT AND THE ATTITUDE FORMATION PROCESS*

JOSEPH WOELFEL
University of Illinois

ARCHIBALD O. HALLER
University of Wisconsin

American Sociological Review 1971, Vol. 36 (February):74-87

Based on a new formulation of attitude formation theory, new instruments (The Wisconsin Significant Other Battery) are utilized to measure the influence of significant others over the educational and occupational aspirations of 100 high school seniors. These new variables are combined with other variables of known effect into a hypothetical model of the process whereby educational and occupational aspirations are set. Because of the partially nonrecursive nature of the proposed model, statistical difficulties involved in its solution are discussed. In spite of these difficulties, the new variables introduced result in more satisfactory explanations of aspiration attitudes than those reported previously.

THE importance of "others" as mediators of culture has long been acknowledged in sociology, and the influence of other persons and groups in the formation of atti-

tudes, values, self-conceptions and other psychological structures is central to much of

*The research reported here was supported by the U.S. Office of Education, by the Cooperative State Research Service and the University's College of Agriculture for North Central Regional Research Committee NC-86, by funds to the Institute for Research on Poverty at the University of Wisconsin, provided by the Office of Economic Opportunity

pursuant to the provisions of the Economic Opportunity Act of 1964, by the Graduate School of the University of Wisconsin, the Graduate Research Committee of the University of Illinois, and the Foundation for Social Research, Inc. The writers are grateful to Edward L. Fink for assistance in all phases of the research, particularly the statistical analysis, and to Helcio A. Saraiva for computer programming assistance.

gories of which he sees himself to be a member and the filter categories of which he sees the object to be a member.

It follows, then, that the process whereby attitudes are formed and changed is the same as the process by which filter categories are formed and changed. The inclusion of a set of distinct objects into a category is basically a classification based on perceived similarity, and conversely, exclusion of an object from a category is a classification based on a perceived difference. Classification is thus a cognitive act based on the *information* one has about objects and self. Information, therefore, is the basis of filter categories and, hence, attitudes as we define them here. Three sources of such information are assumed to be central to filter category formation:

Interpersonal Influences. Perhaps the broadest distinction between types of interpersonal influence noted in the field is that between others who hold expectations for ego and those who serve as models for ego's behavior (Kelly, 1952). According to the theory outlined above, those who hold expectations for ego may do so by (1) communicating definitions of ego's self-filter categories (and thus one's self), (2) communicating definitions of the object filter categories, and thus the object of the attitude, or (3) both. Probably both are involved in most expectations one person holds for another's behavior. For want of a better term, these others are here called *definers*. By the same reasoning, models may exert influence by serving as (1) examples for ego (insofar as ego considers the others to be a member of the same category as himself, the other's actions help define that category and consequently his conception of himself), (2) examples of the object or the object filter categories (as a doctor *defines* medicine for ego simply by practicing medicine where ego can see him), or (3) both. We shall call these two basic types "models for self" and "models for objects."

This is an unorthodox formulation. It makes no assumptions about affect, about any emotional ties that may (or may not) exist between ego and other. *It assumes that others are significant in direct proportion to the amount of information they convey to an ego about the categories he uses to define ob-*

jects and self, either by word (definers) or examples (models), affective factors notwithstanding.

Self-Reflexive Activity. Self-reflexive activity, as Mead (1934) defined it, refers to behavior in which an individual confronts himself in responding to some object and makes an inference about himself as an active self on the basis of that confrontation. We here take the term in the broadest sense to refer to any definition a person makes about his relationship to an object on the basis of his own observations. We might hypothesize that self-reflexive activity is more influential (compared to interpersonal influences and the effect of previous related attitudes) in the formation of attitudes when the object of the attitude is unambiguous and observable; in the event of ambiguous or nonobservable objects, reliance on interpersonal influence and other related attitudes should increase.

The Effect of Other Attitudes. In the abstract, the two sources mentioned above are probably exhaustive. In any ongoing personality, however, new information which a person receives from whatever source is at least partly evaluated in terms of its agreement with what ego already believes (Festinger, 1957). Without making any specific hypotheses about modes of resolution of conflicts or other specific results, we here refer to the more general hypothesis that other relevant attitudes which ego already holds exert some influence on the formation or change of an attitude. Thus, in setting his occupational aspirations, ego is very likely influenced by his educational aspirations—he would be unlikely to aspire to be a doctor without aspiring to be a college graduate as well.

Essentially, the theory presented here is an information theory, with attitudes defined as an individual's conception of relations to objects. Structural factors influence the kinds of significant others to which ego is exposed and the kinds of information that those significant others communicate to ego, and that information, along with what ego can observe from his own activities, provides the basic corpus out of which he sets his attitudes. That information is evaluated in terms of its consistency with previously accumulated information (i.e., other related attitudes)

possible combination of race (black and white); SES (farm, blue-collar, white-collar, professional, executive); rural-urban; proper age in grade versus over-age in grade; and male-female. Some of the combinations make no sense (e.g., urban-farm), and some are not easily found in Wisconsin (e.g., rural negro professional), and so the total does not equal the 64 possible combinations.

These youth were asked to define education and occupation, and their orientation toward each. The resulting list of definitions were then classified into four generic "filter categories."

The original purpose of eliciting filter categories at all was to use them as cues to remind the subject to think of people who have indirectly influenced his thinking about occupation. If an individual did not influence the subject's definition of *working*, or of *being a doctor*, perhaps he *did* influence his thinking about *money* or how much money a person should earn. This would influence the individual's occupational choice; income would be a filter category for occupation. But after all the filters were coded from the occupational section of the protocol, there were far too many to include on a reasonable questionnaire. Typical responses were "working with people," "good pay," "service to humanity," "high status," "work around animals," "a way to make a living," etc. Although there were many individual responses, a striking characteristic of the list was the great similarity of most of the items to each other. The following actual filters—livelihood, means to support, to buy necessities, \$1.00–\$1.70 per hour (or other actual salary figures) means to support family, make money, compensation, survive—all involve earning money, for example. Because the number of interviews was too small for any meaningful statistical analysis, all occupational filters were intuitively classified on the basis of similarities like those listed above. Four categories emerged into which almost all the filter categories seemed easily placeable: Intrinsic Nature, Extrinsic Nature, Intrinsic Function, and Extrinsic Function.

Intrinsic Nature—this category is made up of all those responses indicating activities contributing directly to the work of a particular kind of job; for example, *installing*

pipe is part of the work called "plumbing." Some of the more frequent items included in this class were managing people, selling, farming, designing houses, singing, writing theories, etc.

Extrinsic Nature—this category is made up of all those responses which describe the environments in which the direct activities occur; perhaps the best synonym is *working conditions*, such as *heavy work, work outdoors, work around animals, work with my hands, leave free time for travel, not too strenuous, fun*, etc.

Intrinsic Function—this category describes the purpose of a job; the actual reason for the job's existing; e.g., *healing people, manufacturing houses, bettering humanity*. It is distinguished from Intrinsic Nature in that it refers to the *reason* the job is done rather than the actual activity being done.

Extrinsic Function—this category refers to those functions which are not inherently part of a job, but which can be served by almost any job, e.g., *earn money, advancement, high prestige, buy a house, earn the things you need, support family*, etc.

This, of course, is by no means the only classification schema that could be imposed on this data. Its usefulness hinges on the assumption that the mentioning (on a questionnaire instrument) of these four categories, along with several sample items of each, may cue the individual to think of the actual filter categories he has used to define occupation and, hopefully, help him remember who he talks to or sees as examples of each of them.

Although occupational filter categories are used as an example, educational filters are exactly parallel. *The initial assumption of the theory is that persons who provide information about these filter categories are significant others for education and occupation.* A questionnaire was then constructed which (1) listed each filter category; (2) asked the individual who had talked to him about each filter category; and (3) asked the individual who he knew was an *example* of each filter category. Those whom ego named as *talking about* the filter categories are considered *definers*; those listed as *examples* of the filter categories are considered *models*. Both models and definers together provide our operational definition of "significant

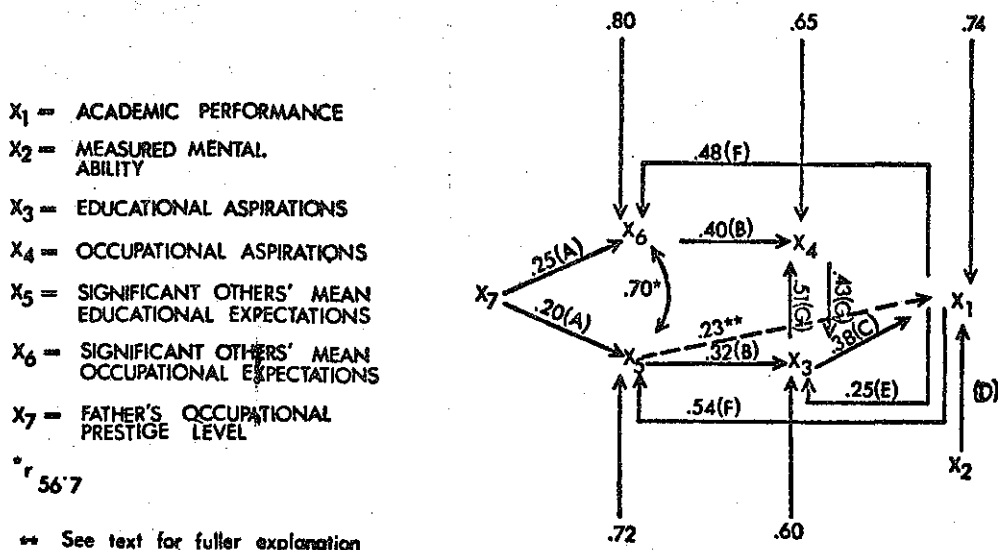
differentially expose their incumbents to various kinds of significant others who take the structural location of ego into account when setting their expectations for him. In this research, structural location is measured by the SES of ego's family. This is measured by the prestige level of ego's father's occupation, rated by the Duncan revision of the NORC scale (Duncan, 1961).

F. IQ. Although the previous variables exhaust those thought to be theoretically interesting, the genetic ability of the student may intrude on the model at the performance stage. We thus control for the IQ of the student as measured by the Otis Quick scoring test of mental ability (Otis, 1954).

Data we collected from 100 high school seniors—the entire senior class—from a small Wisconsin city high school. The Wisconsin city was selected (a) because its size (13,000) is about as large as most Wisconsin cities may be, with only one school; so all the city's students could be located in one place, and (b) because the city itself is based on a fairly mixed economy and a reasonably wide SES range might be obtained. More specific data about the sample is available in Haller and Woelfel (1969). The instruments identified 1,358 significant others for this group of students. A 68% return of questionnaires mailed to those others yielded usable data from 950 significant others. Figure 1

represents what seems a plausible ordering of these variables in this context. X_7 (SES of the family) is one of the social structural factors which may exert influence over significant others and their expectations. X_6 and X_5 are, respectively, the mean occupational and educational expectations of the student's significant others, and represent the interpersonal influence variables of the theory. X_4 and X_3 are respectively the occupational and educational aspirations of the student representing the attitude variables (Haller and Woelfel, 1969: Chapt. 2). X_2 is measured mental ability, here presumed to be one of the outside (nonsocial-psychological) factors which intrude on the theory. X_1 is the academic performance of the student. The arrows marked (A) represent the influence of structural characteristics over the expectations others have for ego. Arrows marked (B) represent the influence the expectations of others have on the attitudes (educational and occupational aspirations) of ego. Arrow (C) represents the influence of ego's attitude on his behavior. Arrow (D) represents the influence of an outside factor (measured mental ability) on the behavior. Arrows (E) and (F) are feedback arrows. Arrow (E) represents self-reflexive activity, or the effect on ego's attitudes of his observations of his own behavior. Arrow (F) represents the effect on the expectations others hold for ego of

FIGURE 1. SCHEMATIC REPRESENTATION OF A MODEL FOR THE FORMATION OF EDUCATIONAL AND OCCUPATIONAL ASPIRATIONS. STRENGTHS OF THE VARIOUS CAUSAL PATHS ARE ESTIMATED BY BETA COEFFICIENTS



tionships are borne out by the beta coefficients in Figure 1. Not all the possible arrows have been drawn, although most have been calculated. Of those calculated, none of those not presented in Figure 1 is higher than .13 (all the beta coefficients are presented in Table 2). Occupational expectation and educational expectation have not been allowed to regress on one another, for example, since (a) the educational and occupational significant others represent to some extent different persons (the conditional probability of one significant other being both educational and occupational is .70), and so the interpretation of such a relationship would be problematic; (b) doing so obscures the relationship between both variables and SES; and (c) because SES has been an important variable involved in the educational and occupational aspiration process, there is some reason to regress significant other influence on it, but our major emphasis here is not on the causal determinants of significant other expectations, even though such a study would be a valuable one. For similar theoretical reasons, neither occupational expectations nor educational expectations have been allowed to regress on educational aspirations or occupational aspirations. Mental ability and SES are treated as given and are not regressed on any of the variables. Specifically, the equations used were:

$$X_1 = \beta_1 X_2 + \beta_2 X_3 + \beta_3 X_4 + \beta_4 X_5 + \beta_5 X_6 + \beta_6 X_7$$

$$X_3 = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_4 + \beta_4 X_5 + \beta_5 X_6 + \beta_6 X_7$$

$$X_4 = \beta_1 X_1 + \beta_2 X_3 + \beta_3 X_4 + \beta_4 X_5 + \beta_5 X_6 + \beta_6 X_7$$

$$X_5 = \beta_1 X_1 + \beta_2 X_7$$

$$X_6 = \beta_1 X_1 + \beta_2 X_7$$

Where:

X_1 = Academic Performance

X_2 = Mental Ability

X_3 = Student's Educational Aspirations

X_4 = Student's Occupational Aspirations

X_5 = Significant Others' Educational Expectations

X_6 = Significant Others' Occupational Expectations

X_7 = Father's Occupational Prestige Level

The main finding is that where substantial relationships were predicted by the theory, they were found; and where they were not predicted, they were not found. In addition, the present operationalization of the theory explains 64% of the variance in educational aspirations and 59% of the variance in occupational aspirations, which are its true dependent variables. These explained variances are important, first because they are higher than the best previously reported (Sewell *et al.*, 1969), and secondly because they utilize the direct measure of exact significant other expectation rather than ego's perception of these expectations.

The model hypothesized that structural characteristics (in this instance represented by father's occupational level) exercised their effect on the individual through the mediation of significant others. The beta coefficients of .25 between father's occupational level and occupational expectations, and .20 between father's occupational level and educational expectations support the notion that structural characteristics influence the expectations of others; the absence of any substantial direct links between SES and *any* subsequent variable (even though there are zero-order relationships) supports the contention that significant other influence is the mechanism of mediation (this is consistent with Sewell *et al.*, 1969). The beta weights between occupational expectations and occupational aspirations (.32) are consistent with net effect of the expectations of significant others on the aspirations of youth. The strong reciprocal arrows between occupational aspirations and educational aspirations (.43 and .51) support but do not necessarily confirm the hypothesized influence of related attitudes on each other (i.e., students take into account their occupational plans when setting educational goals and *vice versa*). The arrow from educational aspirations to academic performance is consistent with the hypothesis that the attitude variable, educational aspiration, exercises substantial influence over the behavioral variable appropriate to it, academic performance. No direct link was posited between occupational aspiration and academic performance, since it was assumed that whatever effect the occupational aspirations of students may have on their academic performance would operate indi-

rectly, by raising or lowering their educational aspirations. The actual beta weight for that path is only .025, supportive of the hypothesis of no direct effect.

The arrow from academic performance to educational aspiration represents the direct feedback of academic performance on educational aspirations. The beta weight of .25 is consistent with the theoretical hypothesis that the individual's own observation of his academic performance (self-reflexive act) influences his educational aspirations. No direct link from academic performance to occupational aspirations had been hypothesized since we assumed that high or low academic performance would effect the student's occupational aspirations indirectly by raising or lowering his educational aspirations. In fact, the actual direct link has a beta coefficient of only .02, supporting the hypothesis of no direct effect.

It had further been hypothesized that significant others would observe the student's academic performance and raise or lower their expectations accordingly. These links are represented by the direct arrows from academic performance to educational expectations and occupational expectations. The hypothesis would predict high beta values here, and their respective beta values of .54 and .48 are indeed quite high. We also hypothesized that, of the three modes of influence on attitude, the individual's reliance on the self-reflexive act would increase as the object of the attitude in question became more observable, and conversely the influence of significant others and related attitudes would increase where the object of the attitude is less observable. The data bear this out. Education should be more of an observable object to a student than occupation, since he participates in education day by day, whereas he participates in the occupational structure only imaginatively if at all. Accordingly, both significant others and related attitudes exert more influence over occupational than educational aspirations (occupational expectations to occupational aspirations = .40 versus educational expectations to educational aspirations = .32; educational aspirations to occupational aspirations = .51 versus occupational aspirations to educational aspirations = .43).

Two apparently surprising findings (not

inconsistent with the theory) also emerge from the diagram. First, there is a substantial beta weight from the educational expectations of significant others to the academic performance of the student (represented by the dotted arrow between educational expectations and academic performance) which had not been anticipated in the model. A plausible explanation may be as follows: academic performance is not the behavioral variable ideally to be predicted by educational aspiration—the variable which the theory would argue directly depends on educational aspirations is *educational attainment*, or number of years of education attained. It may be, then, that in some cases students feel that their significant others expect high educational attainment from them and, to satisfy those others, perform better in school but do not raise their educational aspirations accordingly—this is potentially possible since educational aspirations are responsive to variables other than the expectations of significant others.

The second anomaly is the surprisingly low path from mental ability to academic performance. This would seem to indicate that mental ability has little to do with academic performance. This low coefficient is misleading because the academic performance variable includes not only grade point average but also extracurricular activities not so likely to be affected by mental ability. That this is the case is illustrated by the following: (1) the zero-order correlation between mental ability and academic performance is .37, while that between mental ability and grade point average is .60, and (2) when the weighting of grade point average in the measure is doubled the beta coefficient increases to .21.

DISCUSSION

Of first concern are the limitations imposed on inference by the present research design. Although the model bears a resemblance to path analysis, it clearly does not meet the requirements of such analyses (Blau and Duncan, 1967:165-172; Wright, 1934, 1960; Heise, 1968), and we have refrained from calling it such. It is, and should be regarded as, simply a graphic representation of a series of mathematically independent regression equations. The presence of a substantial beta

inappropriate in the case of obviously distinct reciprocal variables, such as the academic performance of a student and the student's educational aspirations.

Sewell *et al.* (1969) have resorted to the simple expedient of measuring reciprocal variables at different points in time. Thus, they measure academic performance at T_1 and aspirations at T_2 . Since it is manifestly impossible for aspirations at T_2 to affect performance at T_1 , Sewell *et al.* do not posit a reciprocal path. The use of time-lagged variables, however, in no way alters the theoretical presumption that *at any given point in time*, aspirations and performances are mutually interdependent. Such interactions are not taken into account in the Sewell *et al.* models, and their path coefficients are correspondingly misleading, insofar as they are the mathematically exact solutions for theoretically inexact statements. The resolution presented in this paper is technically the least sophisticated of all, but it has the advantage of preserving the theory intact rather than modifying it to meet the exigencies of method.

It has become increasingly clear that numerical manipulation of nonexperimental data is insufficient. Fortunately, the theory lends itself well to physical controls. What is clearly needed at his stage of theoretical development is an experimental design in which the variables are physically manipulated rather than statistically controlled. Such a design is not only possible but feasible since the key variables, the educational and occupational expectations of significant others, are themselves amenable to at least some physical manipulation. Although Wisconsin Significant Other Battery does not guarantee such research to be successful, yet without the capacity to detect significant others, one cannot manipulate these expectations in a direct fashion. While much research of all kinds can be performed fruitfully in this area, the understanding of the educational and occupational attainment process and of the attendant level of measurement devices has increased to the point where field experiments have become a distinct possibility.

REFERENCES

- Alexander, C. Norman, Jr. and Ernest Q. Campbell
1964 "Peer influences on adolescent educational aspirations and attainments." *American Sociological Review* 29 (August):568-575.
- Blau, Peter M. and Otis Dudley Duncan
1967 *The American Occupational Structure*. New York, John Wiley and Sons.
- Bruner, Jerome S.
1958 "Social psychology and perception." In Maccoby, Newcomb and Hartley (eds.), *Readings in Social Psychology*. New York: Holt, Rinehart, Winston.
- DeFleur, Melvin L. and Frank R. Westie
1963 "Attitude as a scientific concept." *Social Forces* 42 (October):17-31.
- Duncan, Otis Dudley
1961 "A socioeconomic index for all occupations." Pp. 109-138, in Albert J. Reiss, Jr. (ed.), *Occupations and Social Status*. New York: The Free Press.
- Duncan, Otis Dudley, A. O. Haller and Alejandro Portes
1968 "Peer influences on aspirations: A reinterpretation." *American Journal of Sociology* 74 (September):119-137.
- Festinger, Leon
1957 *A Theory of Cognitive Dissonance*. Evanston, Illinois: Row, Peterson and Co.
- Green, Bert F.
1954 "Attitude measurement." In Gardner Lindsey (ed.), *Handbook of Social Psychology*, Vol. 1. Cambridge, Massachusetts: Addison-Wesley.
- Haller, A. O. and C. E. Butterworth
1960 "Peer influences on levels of occupational and educational aspiration." *Social Forces* 38 (May):289-295.
- Haller, A. O. and Irwin W. Miller
1963 *The Occupational Aspiration Scale: Theory, Structure and Correlates*. East Lansing: Michigan Agricultural Experiment Station Technical Bulletin 288:56-66.
- Haller, Archibald O.
1969 "On the concept of aspiration." *Rural Sociology* 33 (December), 1969:484-487.
- Haller, Archibald O. and William H. Sewell
1967 "Occupational choices of Wisconsin farm boys." *Rural Sociology* 32 (March):37-55.
- Haller, Archibald O. and Joseph Woelfel
1969 *The Wisconsin Significant Other Battery*. U.S. Office of Education Final Report (forthcoming).
- Heise, David R.
1968 "Problems in path analysis and causal inference." Unpublished.
- Katz, Elihu and Paul F. Lazarsfeld
1955 *Personal Influence*. Glencoe, Illinois: The Free Press.
- Kelly, Harold H.
1952 "Two functions of reference groups." In Swanson *et al.*, *Readings in Social Psychology*. New York: Holt.
- Kemper, Theodore D.
1963 *The Relationship Between Self-concept and the Characteristics and Expectations of Significant Others*. Ph.D. dissertation, New York University.
- Kuhn, Manfred
1964 "The reference group reconsidered." *Sociological Quarterly* 5 (Winter):5-21.